

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Enza Zaden Beheer B.V.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

LETTUCE

'Malawi'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-ninth day of September, in the year two thousand and six.

Attest:

[Signature]
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

[Signature]
Secretary of Agriculture

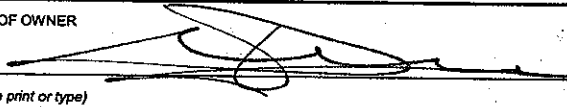


U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

1. NAME OF OWNER Enza Zaden Beheer B.V. ENZA zaden, De Enkhuizer Zaadhandel bv		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME E19.4307	3. VARIETY NAME Malawi
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) Postbox 7 Postbus 7, 1600 AA Enkuizen 1600 AA Enkhuizen Haling 1E, 1602 DB Enkhuizen The Netherlands The Netherlands		5. TELEPHONE (include area code) +31(0)228 315844	FOR OFFICIAL USE ONLY PVPO NUMBER 200300014
6. FAX (include area code) 200300014 +31(0)228 315854		FILING DATE 10/28/2002	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) corporation	8. IF INCORPORATED, GIVE STATE OF INCORPORATION Noord Holland	9. DATE OF INCORPORATION 1938	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) ENZA ZADEN Enza Zaden Research USA, Inc. De Enkhuizer Zaadhandel bv Attn: Aernoudt Aardse, Mel Holland Postbox 7 P.O. Box 866 1600 AA Enkhuizen 525 Lucy Brown Lane The Netherlands San Juan Bautista, CA 95045			FILING AND EXAMINATION FEES: \$ 2705.00 DATE 10/28/02 CERTIFICATION FEE: \$ 768.00 DATE 8/22/06
11. TELEPHONE (include area code) +31 831-623-4644	12. FAX (include area code) +31 831-623-1746	13. E-MAIL P.mazereeuw@enzazaden.nl	14. CROP KIND (Common Name) lettuce
15. GENUS AND SPECIES NAME OF CROP Lactuca sativa		16. FAMILY NAME (Botanical) Compositae	17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no", go to item 22)	
		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED	
		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? IF YES, SPECIFY THE <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED NUMBER 1,2,3, etc. (If additional explanation is necessary, please use the space indicated on the reverse.)	
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U.S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES RAO 7/25/2006 <input type="checkbox"/> NO over IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.			
SIGNATURE OF OWNER 		SIGNATURE OF OWNER	
NAME (Please print or type) P. Mazereeuw		NAME (Please print or type)	
CAPACITY OR TITLE General Manager	DATE 11.10.2002	CAPACITY OR TITLE	DATE

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. DO NOT use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

200300014

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer (including any harvested material) or a hybrid produced from this variety has been sold, disp

FOR the year 2000:
The Netherlands-28-April
Switzerland-14-July
France-9-October
Italy-2-May
New Zealand-26-May
Australia-15-May
Norway-19-June
South Africa-29-May

FOR the year 2001:
United States-4-December
Austria-12-November
Great Britain-23-February
Spain-7-February
Denmark-10-January
Germany-9-February
Sweden-28-February

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 3.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, NW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

S&T-470 (07-01) designed by the Plant Variety Protection Office with WordPerfect 9.0. Replaces STD-470 (04-01) which is obsolete.

USDA-AMS-PVPO
RECEIVED

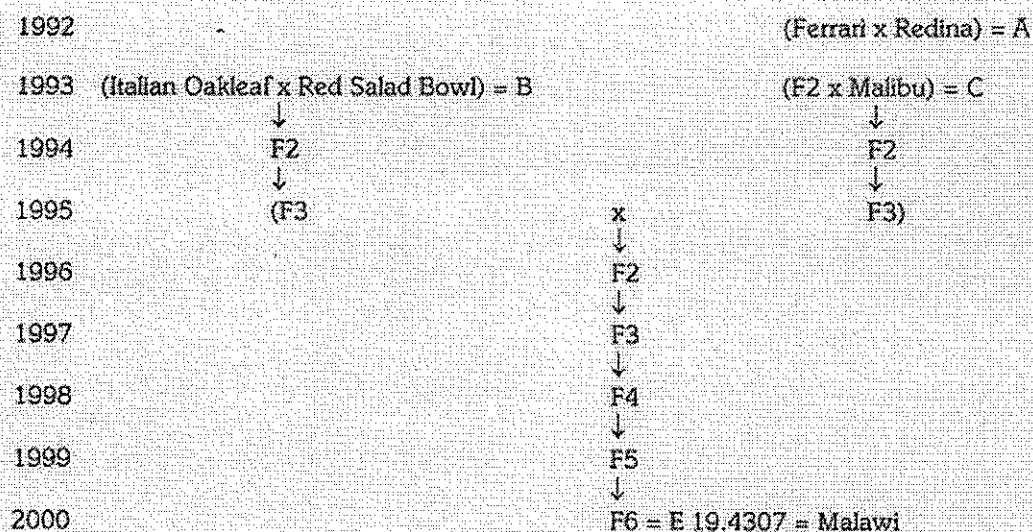


200300014

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF THE VARIETY

LETTUCE : MALAWI



Enza Zaden Beheer B.V.
Postbus 71
1600 AA Enkhuizen
The Netherlands



200300014

Stage 1 (1992)

- Initial Cross A between Ferrari (a brown-red salad bowl type) and Redina (red batavia/redleaf type). F1 seed produced in greenhouse.

Stage 2 (1993)

- F2-seeds (cross A) screened in field in Twisk (Holland) for colour, leaf structure and speed.
- Initial cross B between Italian Oak Leaf and Red Salad Bowl. F1 seed produced in greenhouse.
- Initial cross C between F2 plant from cross A and Malibu (a lollo rossa type with downy mildew gene R18) – F1 seeds produced in greenhouse.

Stage 3 (1994)

- Single plant selections in both F2's (cross B and cross C).

Stage 4 (1995)

- Single plant selections in F3-populations of cross B and cross C.
- Cross made between a selected plant in cross B with a selected plant with R18 gene in cross C – F1 seeds produced in greenhouse.

Stage 5 (1996)

- Single plant selections in F2 population, selection criteria - colour, leaf structure, growth habit, leaf thickness and Bremia resistance.

Stage 6-9 (1997 – 2000)

- Single plant selections in successive years till a uniform and resistant F6 line, designated E 19.4307, was derived.

Stage 10 (2001)

- Testing and introduction of the variety in several countries. Seed production in Australia.

Malawi has been evaluated in extensive trials in lettuce growing areas in California, Arizona and Europe. The variety was stable and uniform on type and resistance through 3 generations of reproduction. 0% of variants have been observed in our selection and seed production fields from the year 2000 till 2005.

Enza Zaden Beheer B.V.
Postbus 7
1800 AA Enkhuizen
The Netherlands



EXHIBIT B - STATE OF DISTINCTNESS

200300014

Variety : Lettuce Malawi

Distinctness based on 2 different field descriptions :

Trial 1 : April 11-2006 – open field plot 1 – Enza research station Allonnes – France

Trial 2 : April 4-2006 – plastic greenhouse n°16 – Enza research station Allonnes – France

Distinctness from parent lines :

Distinctness from Redina :

- Malawi is black-seeded, while Redina is white-seeded
- Malawi has lobed leaves, while Redina has entire leaves (see pictures)

Distinctness from Ferrari :

- Malawi has a dark red colour comparable to code 2.5 YR – 2.5/1 of the Munsell book of colour, while Ferrari has a lighter brown colour comparable to code 5Y – 2.5/2 of the Munsell book of colour
- Malawi has a lanceolate lobed leaf shape, while Ferrari has a rounder lobed leaf shape (see pictures)

Distinctness from Italian oak :

- Malawi has an anthocyaned red leaf colour, while Italian oak has a green colour

Distinctness from most similar variety from the PVP database :

Distinctness from Girondac :

Malawi is most similar to Girondac; however, Malawi is black-seeded, while Girondac is white-seeded

Malawi is most similar to Girondac; however, Malawi has a lanceolate lobed leaf shape, while Girondac has a rounder lobed leaf shape (see picture)

Enza Zaden Beheer B.V.
Postbus
1800 AA Enkhuizen
The Netherlands



Malawi



Girondac

REPRODUCE LOCALLY. Include form number

301 504 5291

Form Approved - OMB No. 0581-0055

Instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, or marital or family status, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(Lettuce)

OBJECTIVE DESCRIPTION OF VARIETY
LETTUCE (*Lactuca sativa* L.)

NAME OF APPLICANT(S) ENZA ZADEN, De Enkhuizer Zaadhandel B.V.		FOR OFFICIAL USE ONLY 200300014	
ADDRESS (Street and No. or RD No., City, State, and ZIP Code) PO BOX 7 1600 AA Enkhuizen The Netherlands		PVPO NUMBER RAO 6/5	
Postbus 7, 1600 AA Enkhuizen Haling 1E, 1602 DB Enkhuizen The Netherlands		VARIETY NAME Malawi	
		EXPERIMENTAL DESIGNATION	

Place the appropriate number that describes the varietal character in the boxes below. Place a zero in the first box (eg. 0 9 9 or 0 9) when number is either 99 or less or 9 or less. Measured data should be the mean of an appropriate number (at least 20) of well spaced plants. Royal Horticultural Society or any recognized color standard may be used to determine plant colors.

The location of the test area is: ENKHUIZEN, NL: King City, Ca Color System Used: RH S CC

SPECIFIC VARIETIES USED FOR COMPARISON AS CHECK VARIETIES IN THIS APPLICATION: Use standard regional check varieties which are adapted to your area. One of the comparison varieties must be the most similar variety used in Exhibit B.

Application Variety (a1.) Malawi Most Similar Variety (c1.) Red Oak Special

Standard Regional Check Variety (c2.) Red Salad Bowl

PLANT TYPE: (See list of suggested check varieties page 4.)

01= Cutting/Leaf	04= Cos or Romaine	07= Salinas Group	10= Latin
02= Butterhead	05= Great Lakes Group	08= Eastern (Ithaca) Group	11= OTHER (Specify below):
03= Bibb	06= Vanguard Group	09= Stem	

(a1.) 0 1

(c1.) 0 1

(c2.) 0 1

SEED:

(a1.) 2	COLOR 1= White (Silver Grey) 2= Black (Grey Brown) 3= Brown (Amber)	(a1.) 2	LIGHT DORMANCY 1= Light Required 2= Light Not Required	(a1.) 2	HEAT DORMANCY 1= Susceptible 2= Not Susceptible
(c1.) 2		(c1.) 2		(c1.) 2	
(c2.) 2		(c2.) 2		(c2.) 2	

COTYLEDON TO FOURTH LEAF STAGE: NOTE: Provide a color photograph or photocopy of the fourth leaf from 20 day old seedling grown under optimal conditions.

SHAPE OF COTYLEDONS: 1= Broad 2= Intermediate 3= Spatulate

(a1.) 2

(c1.) 2

(c2.) 2

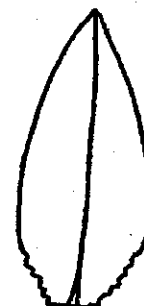
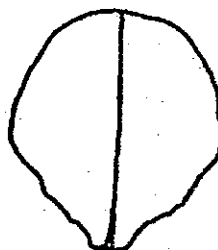
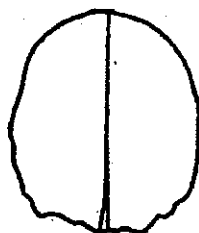
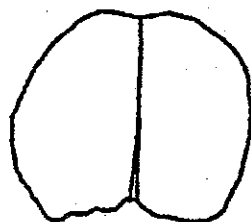
3. Cotyledon to Fourth Leaf Stage (Continued)

SHAPE OF FOURTH LEAF:

(a1.) 6

(c1.) 6

(c2.) 6



1.

2.

3.

4.

5.

6.

LENGTH/WIDTH INDEX OF FOURTH LEAF: L/W x 10

(a1.) 21

(c1.) 09

(c2.) 07

APICAL MARGIN:

1= Entire

2= Crenate/Gnawed

3= Finely Dentate

4= Moderately Dentate

5= Coarsely Dentate

6= Incised

7= Lobed

8= OTHER (Specify below):

(a1.) 5

(c1.) 5

(c2.) 7

■ BASAL MARGIN: (Use the options for Apical Margin above)

(a1.) 4

(c1.) 4

(c2.) 4

UNDULATION:

1= Flat

2= Slight

3= Medium

4= Marked

(a1.) 2

(c1.) 2

(c2.) 2

GREEN COLOR:

1= Yellow Green

2= Light green

3= Medium Green

4= Dark Green

5= Blue Green

6= Silver Green

7= Grey Green

(a1.) 2

(c1.) 2

(c2.) 2

ANTHOCYANIN:

DISTRIBUTION:

1= Absent

2= Margin Only

3= Spotted

4= Throughout

5= OTHER (Specify below):

(a1.) 4

(c1.) 4

(c2.) 4

CONCENTRATION:

1= Light

2= Moderate

3= Intense

(a1.) 3

(c1.) 3

(c2.) 2

3. Cotyledon to Fourth Leaf Stage (Continued)

ROLLING:

1= Absent

2= Present

(a1.)

2

(c1.)

2

(c2.)

2

CUPPING:

1= Uncupped

2= Slight

3= Markedly

(a1.)

2

(c1.)

2

(c2.)

2

REFLEXING:

1= None

2= Apical Margin

3= Lateral Margins

(a1.)

1

(c1.)

1

(c2.)

1

4. MATURE LEAVES (Observe Harvest-Mature Outer Leaves)

NOTE: Provide color photo of a harvest-mature leaf which accurately shows color and margin characteristics.

MARGIN:

INCISION DEPTH:

(deepest penetration of the margin)

1= Absent/Shallow (Dark Green Boston)

3= Deep (Great Lakes 659)

2= Moderate (Vanguard)

(a1.)

3

(c1.)

3

(c2.)

3

INDENTATION:

(finest divisions of the margin)

1= Entire (Dark Green Boston)

2= Shallowly Dentate (Great Lakes 65)

3= Deeply Dentate (Great Lakes 659)

4= Crenate (Vanguard)

5= OTHER (Specify):

(a1.)

3

(c1.)

3

(c2.)

3

UNDULATIONS OF THE APICAL MARGIN:

1= Absent/ Slight (Dark Green Boston)

3= Strong (Great Lakes 659)

2= Moderate (Vanguard)

(a1.)

2

(c1.)

2

(c2.)

2

GREEN COLOR:

1= Very Light Green (Bibb)

2= Light green (Minetto)

3= Medium Green (Great Lakes)

4= Dark Green (Vanguard)

5= Very Dark Green

6= OTHER (Specify): None

(a1.)

6

(c1.)

3

(c2.)

3

ANTHOCYANIN:

DISTRIBUTION:

1= Absent

2= Margin Only (Big Boston)

3= Spotted (Calif. Cream Butter)

4= Throughout (Prize Head)

5= OTHER (Specify below):

(a1.)

4

(c1.)

4

(c2.)

4

CONCENTRATION:

1= Light (Iceberg)

2= Moderate (Prize Head)

3= Intense (Ruby)

(a1.)

3

(c1.)

2

(c2.)

2

4. Mature Leaves (Continued)

SIZE:

1= Small

2= Medium

3= Large

(a1.)

2

(c1.)

2

(c2.)

3

GLOSSINESS:

1= Dull (Vanguard)

2= Moderate (Salinas)

3= Glossy (Great Lakes)

(a1.)

2

(c1.)

2

(c2.)

2

BLISTERING:

1= Absent/Slight
(Salinas)2= Moderate
(Vanguard)3= Strong
(Prize Head)

(a1.)

1

(c1.)

1

(c2.)

1

LEAF THICKNESS:

1= Thin

2= Intermediate

3= Thick

(a1.)

2

(c1.)

2

(c2.)

2

TRICHOMES:

1= Absent (Smooth)

2= Present (Spiny)

(a1.)

1

(c1.)

1

(c2.)

1

i. PLANT

(not valid - baby leaf use only)

SPREAD OF FRAME LEAVES:

(a1.)

cm

(c1.)

cm

(c2.)

cm

HEAD DIAMETER: (market trimmed with single cap leaf)

(a1.)

cm

(c1.)

cm

(c2.)

cm

HEAD SHAPE :

1= Flattened

2= Slightly Flattened

3= Spherical

4= Elongate

5= Non-Heading

6= OTHER (Specify): _____

(a1.)

1

(c1.)

1

(c2.)

1

HEAD SIZE CLASS:

1= Small

2= Medium

3= Large

(a1.)

1

(c1.)

1

(c2.)

1

HEAD PER CARTON:

(a1.)

cm

(c1.)

cm

(c2.)

cm

HEAD WEIGHT:

(a1.)

g

(c1.)

g

(c2.)

g

HEAD FIRMNESS :

1= Loose

2= Moderate

3= Firm

4= Very Firm

(a1.)

1

(c1.)

1

(c2.)

1

6. BUTT

SHAPE:

1= Slightly Concave

2= Flat

3= Rounded

(a1.) (c1.) (c2.)

MIDRIB:

1= Flattened (Salinas)

2= Moderately Raised

3= Prominently Raised (Great Lakes 659)

(a1.) (c1.) (c2.)

7. CORE

DIAMETER AT BASE OF HEAD:

(a1.) mm(c1.) mm(c2.) mm

RATIO OF HEAD DIAMETER/CORE DIAMETER:

(a1.) (c1.) (c2.)

CORE HEIGHT FROM BASE OF HEAD TO APEX:

(a1.) mm(c1.) mm(c2.) mm

8. BOLTING (Give First Water Date: 14-06-2002) NOTE: First Water Date is the date seed first receives adequate moisture to germinate. This can and often does equal the planting date.

NUMBER OF DAYS FROM FIRST WATER DATE TO SEED STALK EMERGENCE (summer conditions):

(a1.) (c1.) (c2.)

BOLTING CLASS:

1= Very Slow

3= Medium

5= Very Rapid

2= Slow

4= Rapid

(a1.) (c1.) (c2.)

HEIGHT OF MATURE SEED STALK:

(a1.) cm(c1.) cm(c2.) cm

SPREAD OF BOLTER PLANT: (at widest point)

(a1.) cm(c1.) cm(c2.) cm

BOLTER LEAVES:

1= Straight

2= Curved

(a1.) (c1.) (c2.)

MARGIN:

1= Entire

2= Dentate

(a1.) (c1.) (c2.)

8. Bolting (Continued)

301 504 5291

200300016 (Lettuce) Page 6 of 8

COLOR:

1= Light Green

2= Medium Green

3= Dark Green

(a1.) (c1.) (c2.)

BOLTER HABIT:

TERMINAL INFLORESCENCE:

1= Absent

2= Present

(a1.) (c1.) (c2.)

LATERAL SHOOTS:

1= Absent

2= Present

(a1.) (c1.) (c2.)

BASAL SIDE SHOOTS:

1= Absent

2= Present

(a1.) (c1.) (c2.)

9. MATURITY

(earliness of harvest-mature head formation)

NOTE: Complete this section for at least one season.

SEASON	APPLICATION VARIETY no. of days ¹			MOST SIMILAR VARIETY no. of days ¹			STANDARD REGIONAL CHECK VARIETY no. of days ¹		
Spring									
Summer	0	3	5				0	3	4
Fall	0	3	2	0	2	8			
Winter									

Give planting date(s) and location(s):

■ Spring:

Summer:

June 14, 2002

Enkhuizen, Holland

Fall:

Sept. 6, 2001

King City CA

Winter:

1. First Water Date to Harvest

10. ADAPTATION:

PRIMARY REGIONS OF ADAPTATION (tested and proven adapted):

(0= Not Tested

1= Not Adapted

2= Adapted)

☒ 2
☒ x

Southwest (CA and/or AZ desert)

West Coast

Southeast

Northeast

OTHER (Specify):

SEASON:

Spring

(Area Calif. ARIZ.)

Fall

(Area Calif.)

Summer

(Area Calif.)

Winter

(Area Ariz.)

GREENHOUSE:

0= Not Tested

1= Not Adapted

2= Adapted

SOIL TYPE:

1= Mineral

2= Organic

3= Both

11. VIRAL DISEASES

1= Immune

3= Resistant

5= Moderately Resistant/Moderately Susceptible 7= Susceptible

9= Highly Susceptible

Big Vein

(a1.)

(c1.)

(c2.)

Lettuce Mosaic

(a1.)

(c1.)

(c2.)

Cucumber Mosaic

(a1.)

(c1.)

(c2.)

Tomato Bushy Stunt, cause of dieback

(a1.)

(c1.)

(c2.)

Turnip Mosaic

(a1.)

(c1.)

(c2.)

Beet Western Yellows

(a1.)

(c1.)

(c2.)

Lettuce Infectious Yellows

(a1.)

(c1.)

(c2.)

OTHER (Specify): _____

(a1.)

(c1.)

(c2.)

12. FUNGAL/BACTERIAL DISEASES

1= Immune

3= Resistant

5= Moderately Resistant/Moderately Susceptible 7= Susceptible

9= Highly Susceptible

Corky Root Rot

(a1.)

(c1.)

(c2.)

(Races: BL: 1-16, 19, 21, 23)

Downy Mildew

(a1.)

(c1.)

(c2.)

(Races: _____)

Powdery Mildew

(a1.)

(c1.)

(c2.)

Sclerotinia Drop

(a1.)

(c1.)

(c2.)

Bacterial Soft Rot

(a1.)

(c1.)

(c2.)

(Pseudomonas spp. and others)

Botrytis (Grey Mold)

(a1.)

(c1.)

(c2.)

Verticillium Wilt

(a1.)

(c1.)

(c2.)

Bacterial Leaf Spot

(a1.)

(c1.)

(c2.)

Anthracnose

(a1.)

(c1.)

(c2.)

OTHER (Specify): _____

(a1.)

(c1.)

(c2.)

13. INSECTS

1= Immune

3= Resistant

5= Moderately Resistant/Moderately Susceptible 7= Susceptible

9= Highly Susceptible

Cabbage Loopers

(a1.)

(c1.)

(c2.)

Root Aphids

(a1.)

(c1.)

(c2.)

Green Peach Aphid

(a1.)

(c1.)

(c2.)

Lettuce Aphid

(a1.)

(c1.)

(c2.)

Pea Leafminer

(a1.)

(c1.)

(c2.)

OTHER (Specify): _____

(a1.)

(c1.)

(c2.)

14. PHYSIOLOGICAL STRESSES

1= Immune

3= Resistant

5= Moderately Resistant/Moderately Susceptible 7= Susceptible

9= Highly Susceptible

Tipburn

(a1.)

(c1.)

(c2.)

Heat

(a1.)

(c1.)

(c2.)

Drought

(a1.)

(c1.)

(c2.)

Cold

(a1.)

(c1.)

(c2.)

Salt

(a1.)

(c1.)

(c2.)

Brown Rib

(a1.)

(c1.)

(c2.)

(Rib Discoloration, Rib Blight)

OTHER (Specify): _____

(a1.)

(c1.)

(c2.)

15. POSTHARVEST STRESS

1= Immune 3= Resistant

5= Moderately Resistant/Moderately Susceptible 7= Susceptible

9= Highly Susceptible

Pink Rib	(a1.)	<input type="text" value="5"/>	(c1.)	<input type="text" value="5"/>	(c2.)	<input type="text" value="5"/>
Russet Spotting	(a1.)	<input type="text"/>	(c1.)	<input type="text"/>	(c2.)	<input type="text"/>
Rusty Brown Discoloration	(a1.)	<input type="text"/>	(c1.)	<input type="text"/>	(c2.)	<input type="text"/>
Internal Rib Necrosis (Blackheart, Grey Rib, Grey Streak)	(a1.)	<input type="text" value="5"/>	(c1.)	<input type="text" value="7"/>	(c2.)	<input type="text" value="7"/>
Brown Stain	(a1.)	<input type="text"/>	(c1.)	<input type="text"/>	(c2.)	<input type="text"/>

16. BIOCHEMICAL OR ELECTROPHORETIC MARKERS

Resistance gene R18 (downy mildew) in Malawi can be detected with a R-18 marker (not present in Red Oak Special and Red Salad Bowl).

17. COMMENTS

Suggested Check Varieties

	TYPE	CHECK VARIETY
1	Cutting/Leaf	Waldmann's Green
2	Butterhead	Dark Green Boston
3	Bibb	Bibb
4	Cos or Romaine	Parris Island
5	Great Lakes Group	Great Lakes 659-700
6	Vanguard Group	Vanguard
7	Salinas Group	Salinas
8	Eastern Group	Ithaca
9	Stem	Celtuce
10	Latin	Little Gem

REFERENCES

- Bowring, J.D.C., 1969. "The Identification of Varieties of Lettuce (*Lactuca sativa* L.)". Journal of the National Institute of Agricultural Botany 11:499-520. National Institute of Agricultural Botany, Cambridge, UK
- Davis, R.M., K.V. Subbarao, R.N. Raid, and E.A. Kurtz., 1997. "Compendium of Lettuce Diseases". APS Press, St. Paul, MN
- Michelmore, R. W., J. M. Norwood, D. S. Ingram, I. R. Crute and P. Nicholson. 1984. The inheritance of virulence in *Bremia lactucae* to match resistance factors 3, 4, 5, 6, 8, 9, 10 and 11 in lettuce (*Lactuca sativa*). Plant Pathology 32:176-177.
- Norwood, J. M., R. W. Michelmore, I. R. Crute and D. S. Ingram. 1983. "The inheritance of specific virulence of *Bremia lactucae* (Downy mildew) to match R-factors 1, 2, 4, 6 and 11 in lettuce (*Lactuca sativa*)". Plant Pathology 32:176-177.
- Rodenburg, C.M., et al., 1960. "Varieties of Lettuce. An International Monograph," Instituut voor de Verdeling van Tuinbouwgewassen (IVT), Wageningen, NL
- Ryder, E.J., 1999. "Lettuce, Endive and Chicory". CABI Publications, Wallingford, UK

2003 000 14



Exhibit D: Red Oak Leaf Malawi, Fourth True Leaf of 20 Day Old Seedling

200300014

E 19.4307

Malawi



200300014

E 19.4307

Malawi



200300014



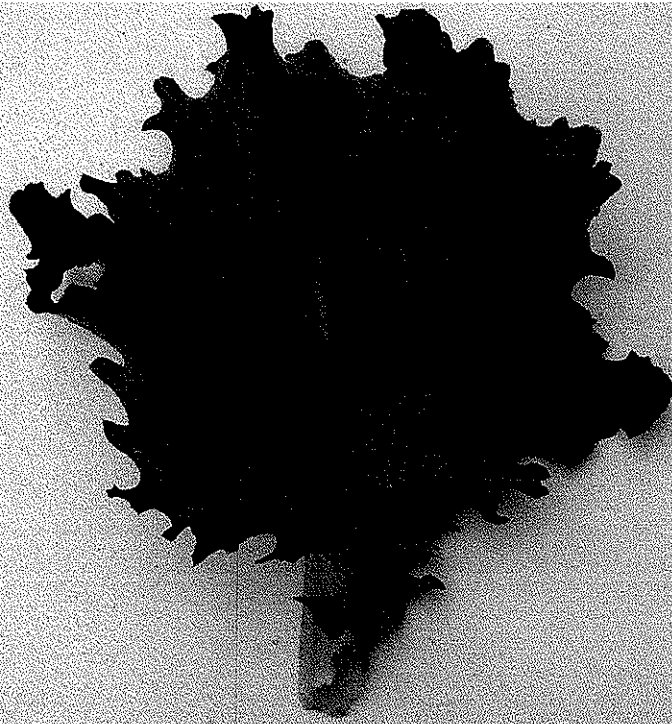
Malawi

200300014



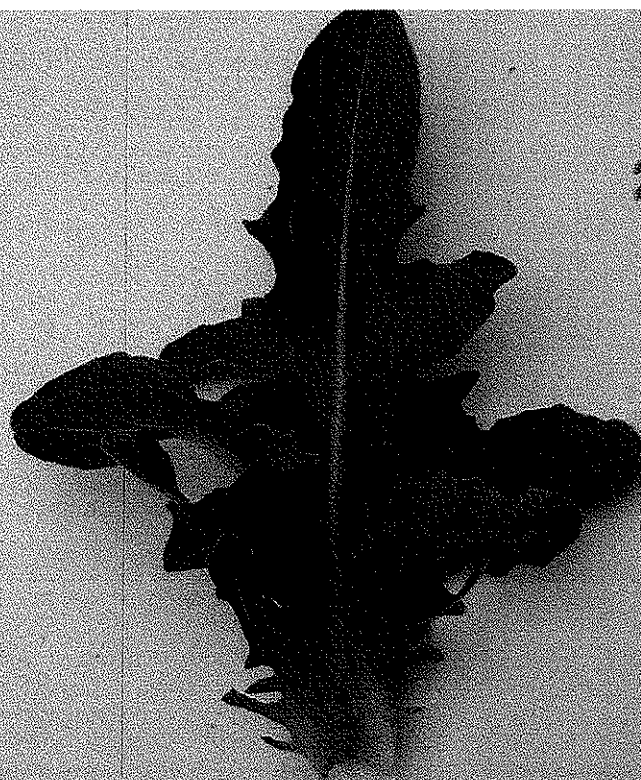
Girondac

200300014



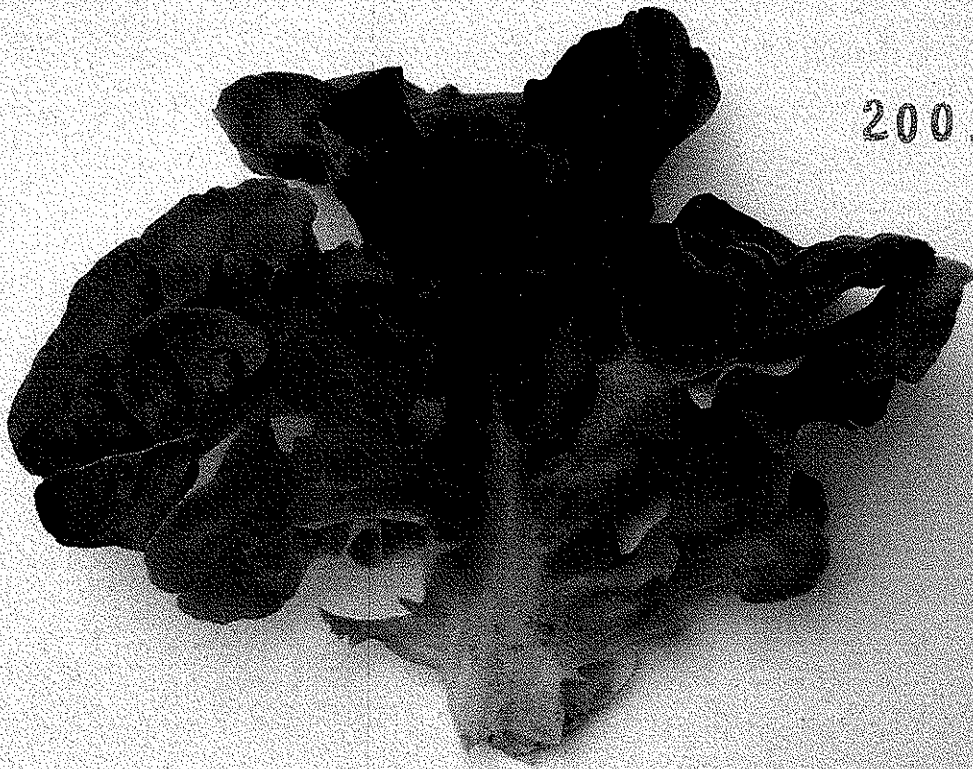
Redina

200300014



Italian oak

200300014



Ferrari

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

1. NAME OF APPLICANT(S)

Enza Zaden Beheer B.V.

ENZA ZADEN De Enkhuizer Zaadhande B.V.

2. TEMPORARY DESIGNATION
OR EXPERIMENTAL NUMBER

E19.4307

3. VARIETY NAME

Malawi

4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country)

PO BOX 7 Postbus 7, 1600 AA Enkuizen
1600 AA ENKH Haling 1E, 1602 DB Enkuizen
The Netherlands The Netherlands

5. TELEPHONE (include area code)

+31 (0) 228315844

6. FAX (include area code)

+31 (0) 228315854

7. PVPO NUMBER

2003 000 14

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain

☒ YES ☐ NO

9. Is the applicant (individual or company) a U.S. National or a U.S. based company? If no, give name of country

☐ YES ☒ NO10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (if needed, use the reverse for extra space):

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

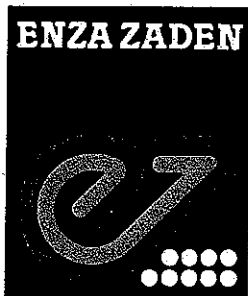
1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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200300014

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ATTACHED LIST OF RECORDATION FORM, PARAGRAPH 7

From the following pvp numbers with corresponding variety names we want to change the company name from "ENZA Zaden, De Enkhuizer Zaadhandel B.V." to "Enza Zaden Beheer B.V.":

<u>PVP#</u>	<u>Crop</u>	<u>Variety</u>
9500051	Lettuce	Diamond
9500116	Lettuce	Bronco
9600278	Lettuce	Cowboy
9700075	Lettuce	Margarita
9800119	Lettuce	Gladiator
9900066	Lettuce	Hearts Delight
9900254	Lettuce	Silverado
9900259	Lettuce	Ponderosa
200000142	Lettuce	Eruption
200000143	Lettuce	Crissy
200000249	Lettuce	Outback
200100226	Lettuce	Coastal Star
200200046	Lettuce	Durango
200200273	Lettuce	Slugger
200300014	Lettuce	Malawi
200300168	Lettuce	Telluride
200500261	Lettuce	Tropicana
200500262	Lettuce	Bergam's Green
200500284	Lettuce	Tassajara
200500307	Lettuce	Salad Pak

Date:

08/26/2005

Signed by:

Aernoudt Aardse
Enza Zaden Research USA, Inc.